

## Process

The first step in the process of conditioning is the application of a steam mixer. Steam treatment is necessary for optimal pelleting. By injecting dry steam (fluid and temperature), starch gelatinization is induced within a short period of time. The duration of conditioning can be extended by adding a Long Term Vessel in the process, behind the steam mixer.

Steam conditioning decreases mechanical friction during pelleting (which saves energy), improves pellet quality and pellet durability (PDI) for handling and transportation of finished feeds.

To facilitate an adequate supply of high quality steam, necessary for a proper conditioning process, Van Aarsen can provide a complete solution. For example a pressure regulator, which keeps the steam pressure to the mixer constant, water separators, proper pipe size and a provision that removes condensate close to the mixer to prevent excessive moisture in the mixer.

## Benefits and features

### High effectiveness

- ▶ The steam injection pipe injects the steam directly into the meal, for optimal absorption
- ▶ Due to the unique design of the paddles, the paddle plates as well as the paddle stakes take part in the mixing process, for optimal mixing
- ▶ Double or triple configuration, or application of a Long Term Conditioner for a longer retention time

### Energy efficiency

- ▶ Steam injection system, for a maximum meal temperature of 90°C
- ▶ The steam is optimally absorbed, no loss of steam temperature to the mixer body
- ▶ Steam lock at mixer product inlet, preventing steam from leaking into the dosing screw.
- ▶ Insulated and heated mixer body (optional)
- ▶ Steam quantity is determined by the capacity flowing through the dosing screw

### Low maintenance costs

- ▶ Minimum maintenance due to unique paddle construction
- ▶ Paddles are bolted to the shaft, for easy and cost effective replacement of the paddles
- ▶ Mixer body, end plates and wear-resistant mixer paddles made of high quality, steam resistant stainless steel
- ▶ Self-cleaning temperature sensor in outlet (optional)



### Easy and safe operation

- ▶ Large access doors with safety switches for cleaning and maintenance
- ▶ Designed and constructed according to CE and ATEX safety regulations

### High feed quality

- ▶ Better physical (hardness and durability) and chemical (gelatinization, pathogenic germs, etc.) quality of the pellets and mash are possible, also depending on a tuned recipe and die configuration
- ▶ Steam reducing group, for adequate supply of high quality steam (optional)
- ▶ Temperature sensor in outlet provided with self-cleaning functionality; cleans after each batch to prevent contamination (optional)

### Flexible production

- ▶ Manually adjustable wear-resistant mixer paddles. The adjustment can be tuned for different recipes or capacities.

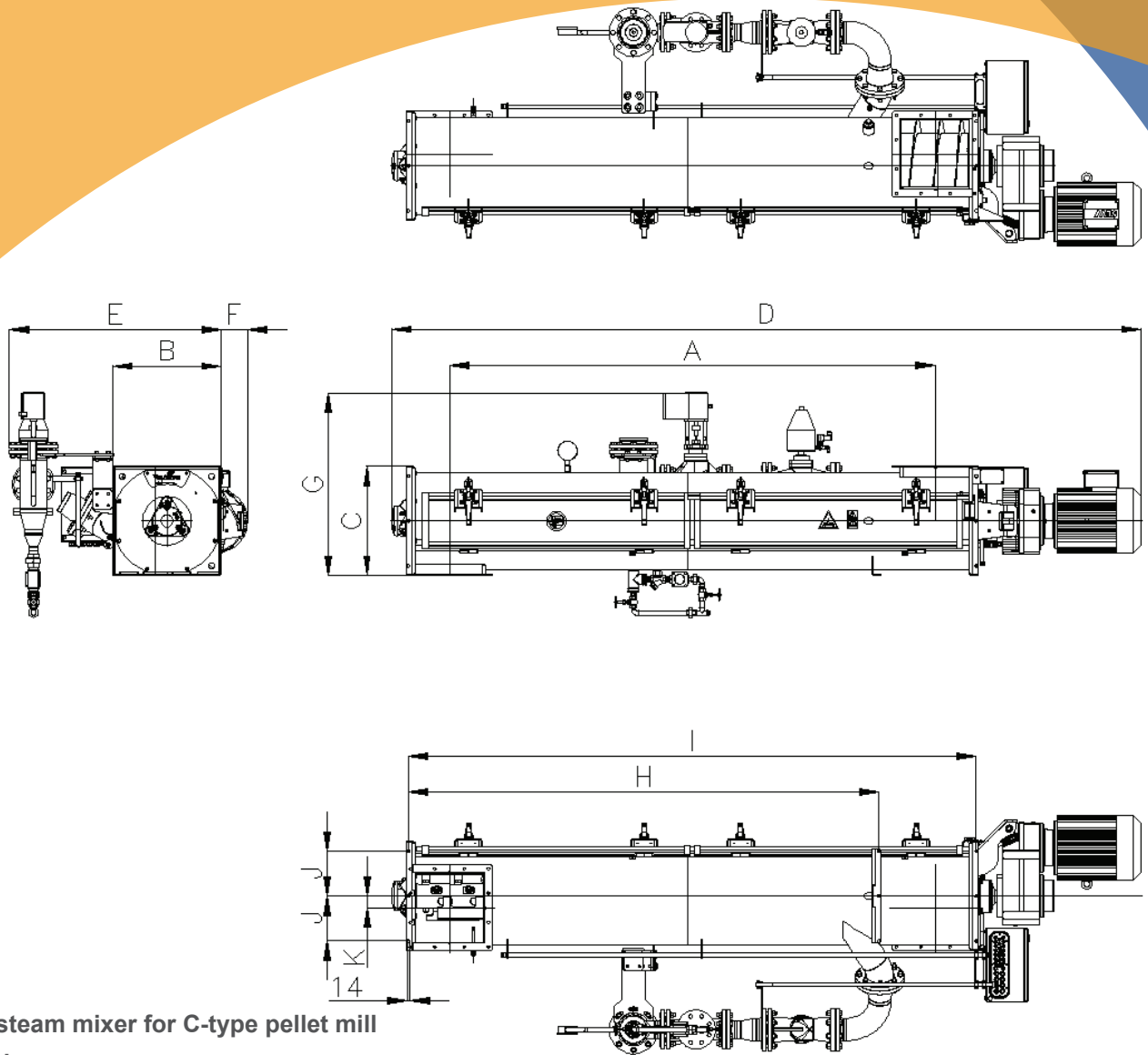
### High automation level

- ▶ Optimal operation of steam mixer; the automation is fully integrated with the pellet mill control and adjusted to the pellet mill load.
- ▶ Steam addition is regulated by the meal temperature which is measured in the outlet of the mixer

### Design

- ▶ Compact design due to direct drive





## Single steam mixer for C-type pellet mill

### Dimensions:

Type	Flanges	A	B	C	D	F	G	H	I	J	K	L
L1500	Round	1500	560	560	2750	1100*	60	935*	-	1910	230	75
L1500	Square	1490	560	560	2750	1100*	60	935*	-	1910	230	60
L2000	Round	2000	560	560	3250	1100*	60	935*	-	2410	230	75
L2000	Square	1990	560	560	3250	1100*	60	935*	-	2410	230	60
L2500	Round	2500	560	560	3850	1100*	135	935*	2410	2910	230	75
L2500	Square	2490	560	560	3850	1100*	135	935*	2410	2910	230	60

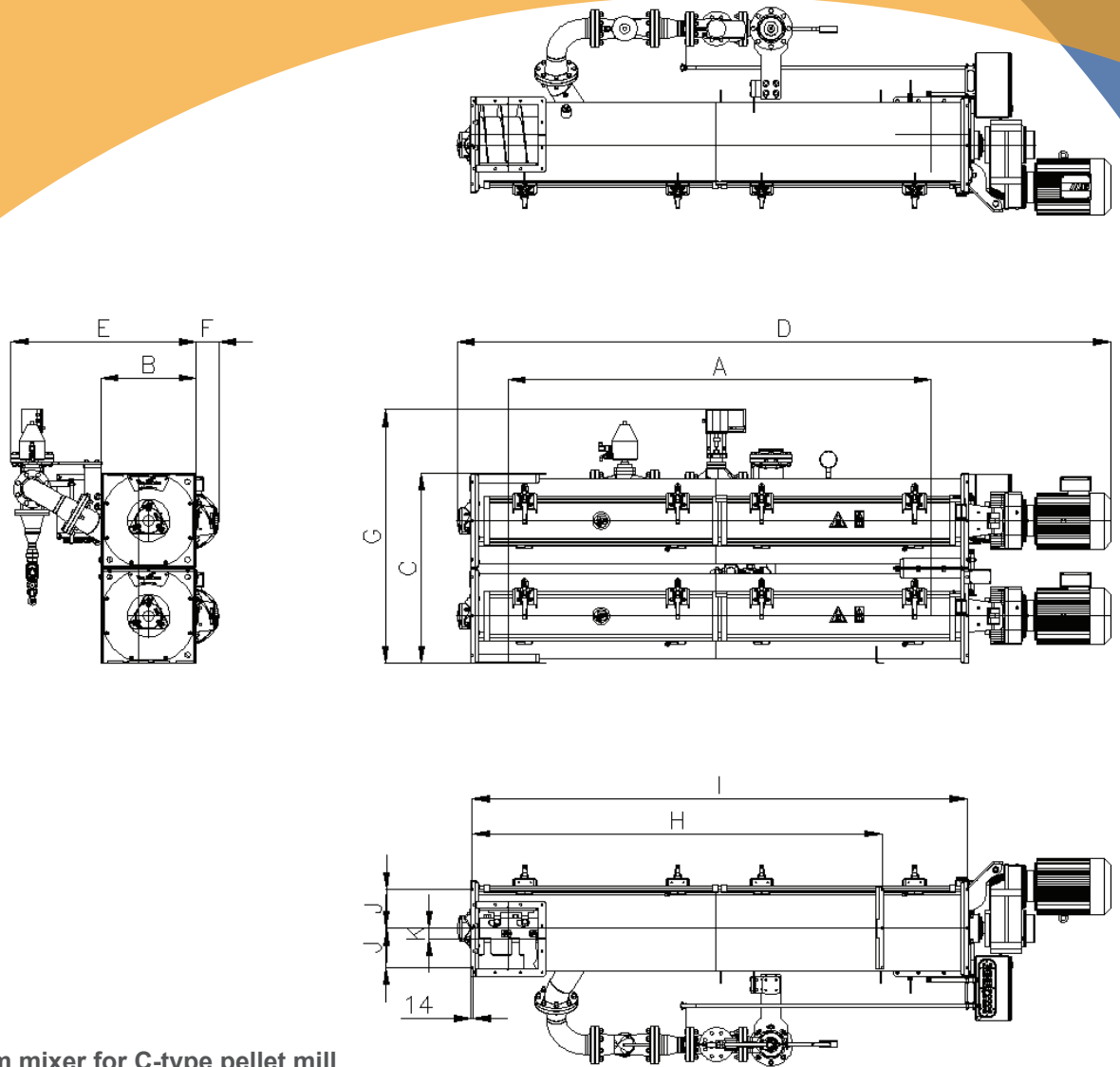
\* Maximum dimension, dependent on required steam tubes

### Delivery program:

Type	Use	Retention	Drive type	Power	Speed	Volume	Weight*
L1500	C500/C600 <12 tph	+ 8 s	SEW FH77/G	7.5 kW	250 rpm	260 l	625 kg
L2000	C750/C900 < 25 tph	+ 9 s	SEW FH77/G	9.2 kW	250 rpm	345 l	770 kg
L2500	C750/C900 > 25 tph	+ 9 s	SEW FH87/G	15 kW	250 rpm	435 l	970 kg

The steam mixers must be provided with a star/delta-switch. Alternative: soft-starter or frequency controller

\* Total weight = including complete drive, excluding product and steam piping



## Double steam mixer for C-type pellet mill

Type	Flanges	A	B	C	D	F	G	H	I	J	K	L
L1500	Round	1500	560	1120	2750	1100*	60	1500*	-	1910	230	75
L1500	Square	1490	560	1120	2750	1100*	60	1500*	-	1910	230	60
L2000	Round	2000	560	1120	3250	1100*	60	1500*	-	2410	230	75
L2000	Square	1990	560	1120	3250	1100*	60	1500*	-	2410	230	60
L2500	Round	2500	560	1120	3850	1100*	135	1500*	2410	2910	230	75
L2500	Square	2490	560	1120	3850	1100*	135	1500*	2410	2910	230	60

\* Maximum dimension, dependent on required steam tubes

## Delivery program:

Type	Use	Retention	Drive type	Power	Speed	Volume	Weight*
L1500	C500/C600 <12 tph	+ 16 s	2x SEW FH77/G	2x 7.5 kW	250 rpm	520 l	1190 kg
L2000	C750/C900 < 25 tph	+ 18 s	2x SEW FH77/G	2x 9.2 kW	250 rpm	690 l	1475 kg
L2500	C750/C900 > 25 tph	+ 18 s	2x SEW FH87/G	2x 15 kW	250 rpm	870 l	1825 kg

The steam mixers must be provided with a star/delta-switch. Alternative: soft-starter or frequency controller

\* Total weight = including complete drive, excluding product and steam piping